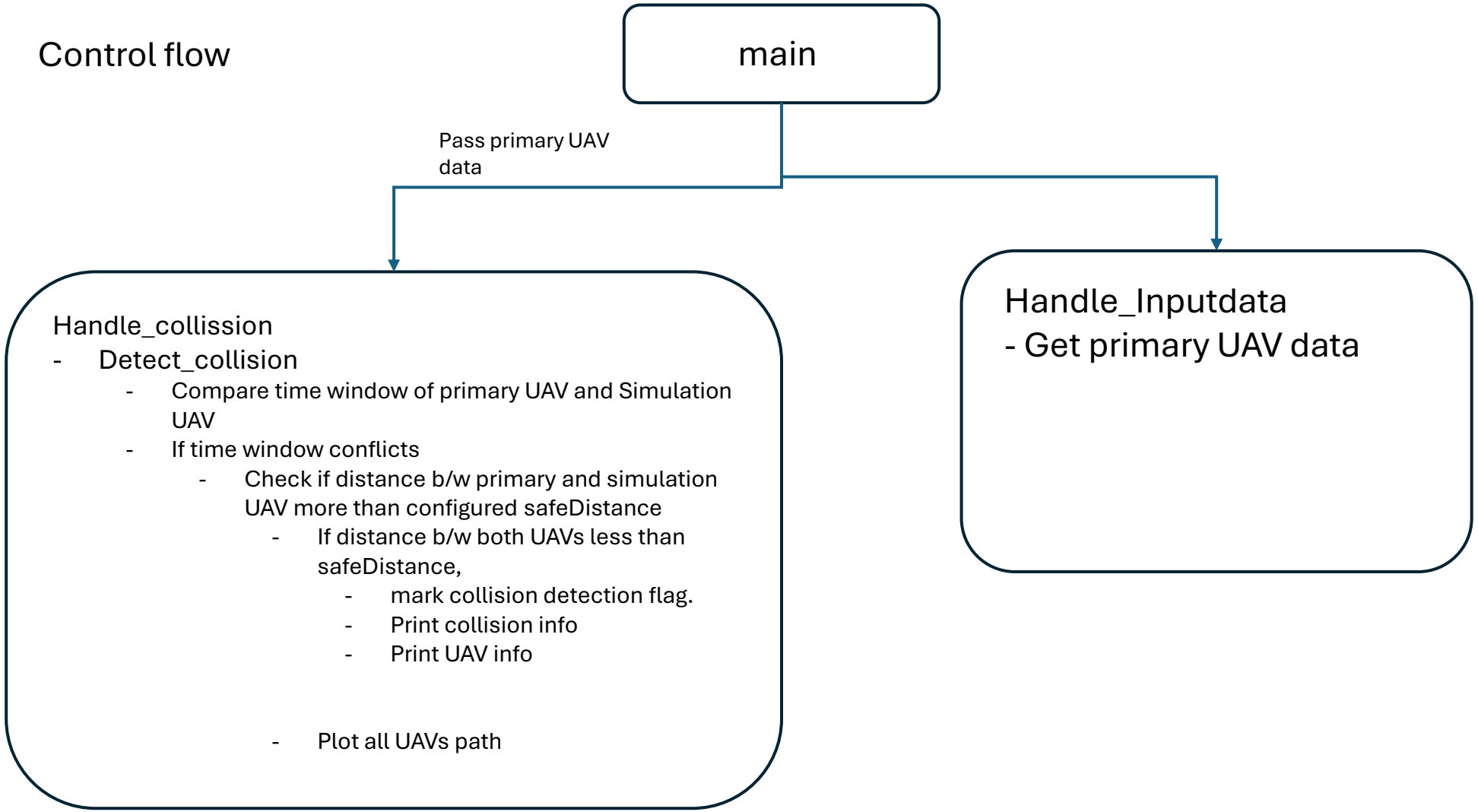
UAV Deconfliction

Design decision

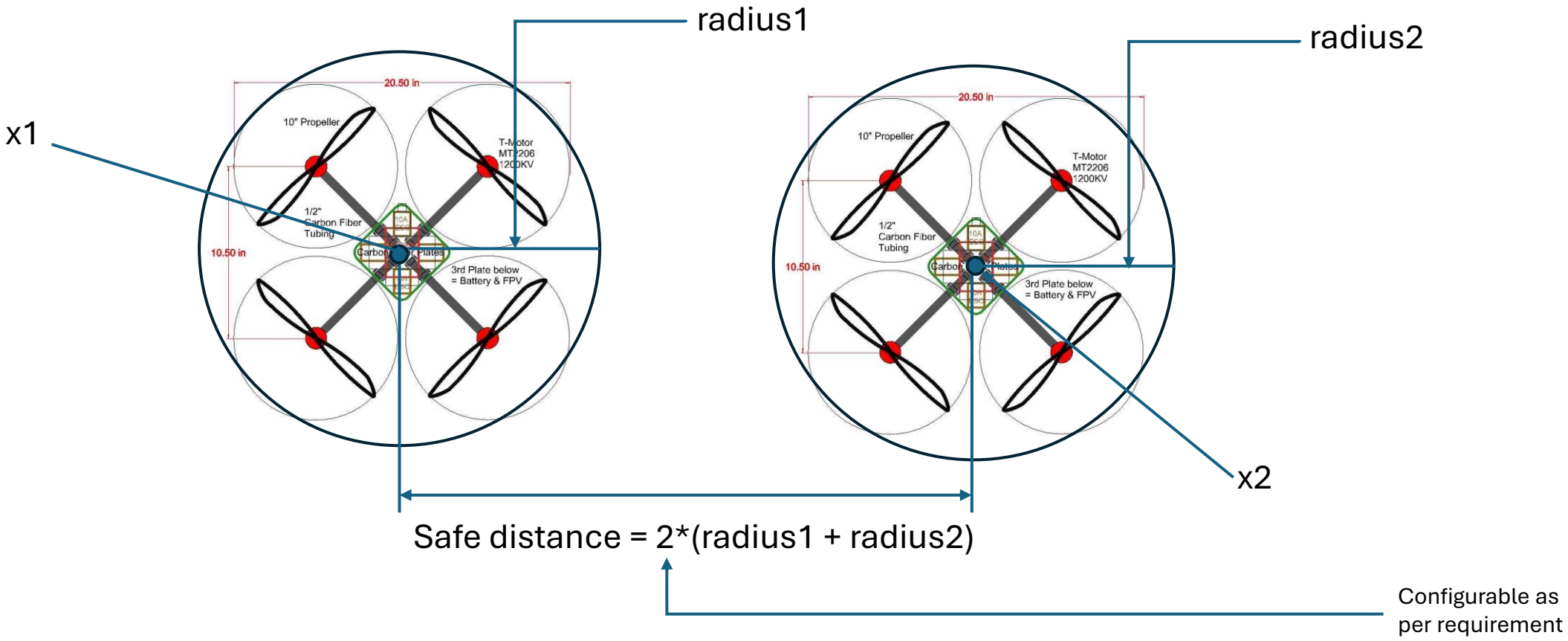
Project Structure

- config
  - config.py – Configuration parameters for UAVs and simulation.
- src
  - main.py – Main entry point for the UAV deconfliction system.
  - collision_detection.py – Collision detection logic and utilities.
  - handle_input_data.py – Handles input data for primary UAV.
  - simulationUavDB.py – Simulation UAV data definitions.
  - waypoint_plot.py – 3D plotting of UAV paths.
- uav_info_def
  - __init__.py – Package initializer for UAV info definitions.
  - uav_info.py – UAV data structures (position, time window, etc.).
- test
  - test_main.py – Unit tests for main functionality.

Control flow



Calculating safe distance b/w two drones



(abs(x1 - x2) > safe distance) AND (abs(y1 - y2) > safe distance) AND (abs(z1 - z2) > safe distance)